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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/924,037	08/07/2001	G. Allan Whittaker	L6780/250037	1465
30732	7590	05/03/2005	EXAMINER	
JOHN S. PRATT KILPATRICK STOCKTON LLP (LOCKHEED) 1100 PEACHTREE STREET ATLANTA, GA 30309			LE, VIET Q	
			ART UNIT	PAPER NUMBER
			2667	

DATE MAILED: 05/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/924,037	WHITTAKER ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Viet Q. Le	2667	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 07 August 2001.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 August 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>10/29/2002</u> <b>14 PAGES</b>  | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4)

because:

- a. Reference character "12" has been used to designate both station A, B, ... and N in figure 2.
- b. Reference character "23" has been used to designate both packet stream A and B in figure 3.
- c. Reference character "45" has been used to designate both station A, B, C D, X, Y and Z in figure 6.
- d. Reference character "42" has been used to designate both hubs in figure 6.
- e. Reference character "62" has been used to designate both station 1, 2, ... N-1, and N in figure 8.
- f. Reference character "72" has been used to designate both station A and B in figure 9.
- g. Reference character "76" has been used to designate both OBIM boxes in figure 2.
- h. Reference character "142" has been used to designate both station G, A, B, C, D, E and F in figure 17.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-7, 12, 26 & 31 are rejected under 35 U.S.C. 102(b) as being anticipated by David Pritty et al. (U.S. 5,434,861), hereinafter referred to as Pritty.

Regarding claim 1, Pritty disclosed a method of allocating a communication medium between a plurality of stations in a network (See figure 1. See also column 6, lines 48-61. Nodes sharing the same transmission medium without running into collisions), comprising: dynamically assigning one of the stations as a starting bus

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master (See column 6, lines 57-58 & column 7, lines 1-3. Any node can be a master node); the starting bus master establishing an order in which the stations have access to the communication medium (See column 7, lines 31-45. The master node using the master timing signal to determine the time delay of each node attached to a bus and using the time delay of each node to determine the order of transmission or access to the bus); appointing an ending bus master to a last station in the order (See figure 1 & column 8, lines 31-38. The last node or the node with a highest time delay will be the last node accessing the node and send messages); the starting bus master sending the order to all of the stations in the network (See column 16, lines 39-53. Once time delay of each node attached to a bus is established, the master node will send the order update to each node); the starting bus master initiating a message sequence with a beginning of sequence message (See column 8, lines 39-43. The master node will first send the "cycle start" message down the bus before the attached nodes can start accessing or use the bus); the stations transmitting their messages after the beginning of sequence message according to the order (See column 8, lines 44-56. All attached nodes to the bus will start sending packets to the bus in order right after the "cycle start" message); and the ending bus master appending an end of sequence message which indicates an end of the message sequence (See column 3, lines 9-35. After the last node set the second flag indicating that it has messages or packets to send to the bus, the master node will know it the last node and after a pre-determined time period, the master node will send out a "cycle start" signal to reset all the flags at all nodes attached to the bus to start a whole sequence again).

Regarding claim 2, Pritty disclosed a method as set forth in claim 1, wherein transmitting messages comprises monitoring at each station for the message from a preceding station in the order (See column 7, lines 50-61. Each node has a monitor capability and always monitors the bus activities according to the established order of time delay. Only when the previous node completed the transmission and therefore the bus is empty, then the next node in order can start using the transmission medium).

Regarding claim 3, Pritty disclosed a method as set forth in claim 1, wherein transmitting messages comprises transmitting message of varying sizes (See column 7, lines 62-68. Messages of any sizes can be transmitted from a node).

Regarding claim 4, Pritty disclosed a method as set forth in claim 1, wherein transmitting messages includes transmitting a synch message indicating that no data is being transmitted (See column 8, lines 2-3. When no data to transmit, the "next flag" message is sent).

Regarding claim 5, Pritty disclosed a method as set forth in claim 1, wherein assigning one of the stations as the starting bus master comprises assigning the bus master to a station at an end of the communication medium (See column 7, lines 9-11. Master node is at the end of the communication medium).

Regarding claim 6, Pritty disclosed a method as set forth in claim 5, wherein assigning the starting bus master to the station at the end of the communication medium comprises sending queries to each station in the network and measuring delay time associated with responses from each station (See column 7, lines 1-3; column 4, lines 28-31; column 5, lines 12; Time delay is determined at each node by sending out

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the timing signal from the master node. At each node, one can also add an additional delay at each node to alter any sequence of order of which node can transmit first in the order. Any node can be a master node based on time delay).

Regarding claim 7, Pritty disclosed a method as set forth in claim 1, wherein assigning the starting bus master comprises assigning the first station as the bus master (See column 7, lines 1-3. Any node can be a master node based on time delay).

Regarding claim 12, Pritty disclosed a method as set forth in claim 8, further comprising assigning the starting bus master to the new station (See column 7, lines 1-3. Any node can be a master node including any new node).

Regarding claim 26, Pritty disclosed a method as set forth in claim 1, further comprising assigning a unique address to each station (See column 16, lines 43-44).

Regarding claim 31, Pritty disclosed a method as set forth in claim 1, further comprising detecting an absence of a message from one of the stations (See column 8, lines 2-3. Detecting the "Next flag" message means that there is no packet to be sent from the node).

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 25 & 27-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pritty in view of Lin (U.S. 6,385,366).

Regarding claim 25, Pritty disclosed a method of allocating a communication medium between a plurality of stations in a network as described above.

Pritty, however, fails to disclose a method further comprising tracking a wavelength of operation for each station.

Lin disclosed each station or node can be uniquely assigned a wavelength and each can be communicated over a bus consisted of many wavelengths (See figure 3, block 120).

It would have been obvious to one having ordinary skills in the art at the time the invention was made to assign a wavelength for a node as an address, the motivation being that a bus or a fiber consists of many wavelengths to assign to different stations without worrying about collisions.

Regarding claim 27-30, Pritty, however, fails to disclose a method further comprising assigning stations different wavelengths (frequency) to transmit or receive messages.

Lin disclosed each station or node can be uniquely assigned a wavelength (frequency) and each can be communicated over a bus consisted of many wavelengths (frequencies) (See figure 3, block 120).

It would have been obvious to one having ordinary skills in the art at the time the invention was made to assign different wavelengths (frequencies) for nodes to transmit / receive messages, the motivation being that a bus or a fiber consists of many



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wavelengths (frequencies) and nodes can transmit / receive at these different wavelengths (frequencies) without worrying about collisions.

6. Claims 8-11 & 13-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pritty in view of Liang (U.S. 5,732,086).

Regarding claim 8 & 14, Pritty disclosed a method of allocating a communication medium between a plurality of stations in a network as described above.

Pritty, however, fails to disclose a method, further comprising detecting a new station or removal of one station and providing update to the order.

Liang disclosed a network topology could be updated for all nodes including any new nodes added to the network (See column 1, lines 61-67; column 2, lines 22-32).

It would have been obvious to one having ordinary skills in the art at the time the invention was made to update the network topology of any new nodes introduced to the network or to the bus, the motivation being that knowing which nodes are attached to the bus, one would equally allow each node communicated to the bus without running into collision problems.

Regarding claim 9 & 15, Pritty, however, fails to disclose a method wherein adding the new station or removal of a station from the order is performed by the starting bus master and the starting bus master sends the order having update to all stations.

Liang disclosed a network topology could be updated for all nodes including any new nodes added to the network (See column 1, lines 61-67; column 2, lines 22-32).

It would have been obvious to one having ordinary skills in the art at the time the invention was made to update the network topology of any new nodes introduced to the network or to the bus, the motivation being that knowing which nodes are attached to the bus, the master node would know and update the order accordingly and send this new order to all the nodes attached to the bus.

Regarding claim 10 & 16, Pritty, however, fails to disclose a method, wherein adding the new station or removal of one station from the order is performed by all stations.

Liang disclosed a network topology could be updated for all nodes including any new nodes added to the network (See column 1, lines 61-67; column 2, lines 22-32).

It would have been obvious to one having ordinary skills in the art at the time the invention was made to have all nodes to update the network topology of any new nodes introduced to the network or to the bus, the motivation being that knowing which nodes are attached to the bus, one would equally allow each node communicated to the bus without running into collision problems bus.

Regarding claim 11, Pritty, however, fails to disclose a method, wherein detecting the new station comprises detecting a new station message inserted by the new station after the end of sequence message.

Liang disclosed a network topology could be updated for all nodes including any new nodes added to the network (See column 1, lines 61-67; column 2, lines 22-32).

It would have been obvious to one having ordinary skills in the art at the time the invention was made to combine Liang and Pritty for the purpose of detecting of any new

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nodes added to the bus by detecting of any new messages inserted right after the end of the sequence message, the motivation being that knowing which nodes are attached to the bus right after the sequence is completed, the master node would have a more up to date information on the network topology and allowing all nodes communication to the bus without any collision problems.

Regarding claim 17, Pritty, however, fails to disclose a method, wherein detecting the removal of one station comprises not detecting any message from the one station for a period of time.

Liang disclosed a network topology could be updated for all nodes including any new nodes added to the network (See column 1, lines 61-67; column 2, lines 22-32).

It would have been obvious to one having ordinary skills in the art at the time the invention was made to combine Liang and Pritty for the purpose of detecting the removal of one station comprises not detecting any message from the one station for a period of time by not detecting of any message from the one station, the motivation being that knowing which nodes are attached to the bus right after the sequence is completed, the master node would have a more up to date information on the network topology and allowing all nodes communication to the bus without any collision problems.

Regarding claim 13 & 20, Pritty, however, fails to disclose a method as set forth in claim 8, wherein detecting and adding the new station or removal of a station dynamically re-computes the length of the communication medium.

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Liang disclosed a network topology could be updated for all nodes including any new nodes added to the network (See column 1, lines 61-67; column 2, lines 22-32).

It would have been obvious to one having ordinary skills in the art at the time the invention was made to combine Liang and Pritty for the purpose of re-computing the length of the communication medium when adding or removing a node to the bus, the motivation being that knowing which nodes are attached to the bus, the master node would know what the appropriate length of the communication medium to each node would be.

Regarding claim 18 & 19, Pritty, however, fails to disclose a method, wherein the one station removed from the network comprises the starting / ending bus master and the method further comprises assigning the starting / ending bus master to another one of the stations in the network.

Liang disclosed a network topology could be updated for all nodes including any new nodes added to the network (See column 1, lines 61-67; column 2, lines 22-32).

It would have been obvious to one having ordinary skills in the art at the time the invention was made to combine Liang and Pritty for the purpose of reassigning the master / end nodes to other attached nodes to the bus when the original master / end nodes are removed, the motivation being that knowing which node is a master / ending node would help the communication between all nodes attached to the bus.

7. Claims 21-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pritty in view of Mario (U.S. 5,517,622).

Regarding claim 21-24, Pritty disclosed a method of allocating a communication medium between a plurality of stations in a network as described above.

Pritty, however, fails to disclose an event log generated to monitoring messages transmitted by the stations.

Mario disclosed an event log could be generated to collect alarms, station ID, events, etc ... (See column 67, lines 46-57).

It would have been obvious to one having ordinary skills in the art at the time the invention was made to combine Mario and Pritty for the purpose of having a record or a log of all events occurred related to the nodes attached to the bus, the motivation being that having a log or a record of events occurred, the network users would have a better record of what happened to the nodes and would be easier for the network users to trouble shoot the problems if occurred.

### ***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. Hee Chul Park (U.S. 2002/0044565 A1), Apparatus and method for pre-arbitrating use of a communication link.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Viet Q. Le whose telephone number is 571-272-2246.

The examiner can normally be reached on 8 AM -5 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ken Vanderpuye can be reached on 571-272-3078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

VL



KENNETH VANDERPUYE  
PRIMARY EXAMINER